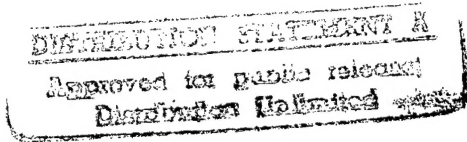


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STRATEGIC AIRPOWER
THE SEARCH FOR THE HOLY GRAIL

by

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Abstract

To a great extent, the history of airpower theory is the history of a futile search for the strategic "knockout punch." From Douhet to LeMay, airpower zealots have argued that the proper application of airpower would, through various means, rapidly and inevitably bring an enemy nation to its knees. In practice, the efficacy of this belief remains to be conclusively demonstrated in any conflict. Nevertheless, the search for the aerial knockout punch continues to dominate airpower thinking today. The origin and persistence of this misplaced focus can be attributed to the general failure of airpower theorists and planners to fully incorporate concepts of the operational level of warfare into airpower thinking. Historically, the most troublesome aspect of any particular airpower theory is the linkage between tactical events, such as striking targets from the air, and the desired strategic and political effects. This critical link between tactics and strategy, which we know as the operational level of warfare, adds to airpower thinking the concepts of synergy and cumulative effect, concepts which in turn call the very idea of a strategic knockout punch into question. Failure to develop an adequate appreciation for the operational aspects of warfare substantially increases the danger of enjoying a seemingly endless string of tactical victories while suffering strategic defeat.

Chapter 1

Introduction

Background and Thesis

To a great extent, the history of airpower theory is the history of a futile search for the strategic “knockout punch.” From Douhet to LeMay, airpower zealots have argued that the proper application of airpower would, through various means, rapidly and inevitably bring an enemy nation to its knees. The discussion of the various means that would yield a quick, cheap, and decisive victory normally centered around the selection of the appropriate targets or target sets to be attacked. In practice, the efficacy of this belief remains to be conclusively demonstrated in any conflict. Lieutenant Colonel Pete Faber, in a survey study of airpower theorists, captures the essence of the problem.

The connection between destroying parts of a target system and changing enemy behavior remained unclear, as it still does today.¹

Nevertheless, the search for the strategic knockout punch continues to dominate airpower thinking. One origin of this misplaced focus, and a reason for its persistence, can be generally attributed to the failure of airpower theorists to fully incorporate the concepts of the operational level of warfare into their theories. The critical link between tactical events, such as striking targets from the air, and their desired strategic effects is often the sticking point in any particular theory of airpower. Full consideration of the

operational level of warfare adds to airpower thinking the concepts of synergy and cumulative effect, concepts which, we shall see, call the very notion of the strategic knockout punch into question. By examining representative airpower issues from World War II, the Vietnam Conflict, and the Gulf War, one can conclude that the success or failure of air operations hinges on an accurate analysis of the operational level concepts presupposed, either consciously or unconsciously, by air commanders and their planners.

The thesis of this paper is that the failure to accurately consider and incorporate operational level thinking, specifically the concepts of synergy and cumulative effect, into air planning can result in a disconnect between airpower application and the desired strategic outcomes, a disconnect which can lead us to enjoy an apparently endless string of tactical successes while suffering apparently inexplicable strategic defeat.

One word of caution is in order at this point. The ability to focus this paper on the operational level of war is made possible by the presupposition of consistent tactical success. No level of national genius in strategic or operational thinking is of much value if the corresponding military units in the field cannot provide the most basic component of even the grandest strategy: tactical victories. The following discussions do not denigrate the importance of tactical proficiency, but, on the contrary, they rely on it fundamentally.

Before turning to historical examples, a brief discussion of the operational level of war, as well as the methodology which will be used to analyze airpower planning, is necessary.

The Operational Level of War: Air Force Manual 1-1

Military theorists, beginning in the late 18th Century, began to distinguish two levels of warfare: the strategic and the tactical. The strategic level of warfare has generally focused on bringing military forces of a nation to bear on those of an opponent. A successful strategy resulted in one's own forces arriving at the battlefield in such a manner as to enjoy some material advantage over the forces of the foe. Tactics focused on the actions of military forces on the battlefield itself. A successful strategy, combined with minimal tactical proficiency, gave one a reasonable expectation of battlefield victory. Since decisive battlefield victory was pretty much the equivalent of strategic victory, the overall result was generally the attainment of one's political objectives. This relatively simple conception of the levels of warfare served pre-twentieth century strategists and tacticians fairly well.

In the late 19th century, however, the increasing complexity and scope of warfare lead to the consideration of a third level of warfare, the operational level. This was a result of the growing perception of a widening gulf between actions which were clearly tactical on one hand and those which were clearly strategic on the other. The concept of the operational level of war was incorporated in Soviet military thought both during, but especially after, World War II. The United States Army's Cold War preoccupation with Soviet doctrinal thought brought the concept of the operational level of war to the Army's basic "how to fight" manual, FM 100-5, Operations, in 1982. The concept has, to varying degrees, remained rooted in American military doctrine ever since.²

In order to establish a working understanding of the operational level of warfare, we will turn to contemporary United States Air Force doctrinal manuals.

The current version of Air Force Manual 1-1, Volume I, *Basic Aerospace Doctrine of the United States Air Force*, describes the levels of war as follows (emphasis added):

War is planned and executed at three levels: strategic, operational and tactical. These levels are dynamically interrelated.

- There are no clearly defined boundaries between them.
- The strategic level of war incorporates the broadest concerns of National power. . . . The entire war effort, not just the military effort, is the focus.
- The operational level of war focuses on campaigns. Decisions at this level orchestrate forces to accomplish strategic objectives within a theater.
- The tactical level of war focuses on battles and engagements.
- Decisions at this level apply combat power to create advantages when in contact with or proximity of the enemy.³

Although the levels of war are declared to be “dynamically interrelated,” there is little in the cursory definitions above to show exactly how the levels do relate to one another. The results of campaigns apparently lead to the accomplishment of strategic objectives, but the link between tactical operations and operational campaigns is buried in the term “orchestrate forces.” This is no accident, but rather reflects the official Air Force position that a key contribution of airpower is its ability to conduct operations at each level of warfare concurrently and, if need be, independently. As a later chapter in AFM 1-1, “Employing Aerospace Forces-The Operational Art,” points out:

Of particular importance is the principle of the objective and the required linkage between strategic objectives, operational (campaign) objectives, and tactical objectives. The objective is the driving force behind decisions at each level of warfare. Airpower’s versatility derives from its ability to attack targets affecting each level of warfare at any time. . . . While powerful synergies can be created when aerospace, land, and naval forces are employed in a single, integrated campaign, it is possible that aerospace forces can make the most effective contribution when they are employed in parallel or relatively independent aerospace campaigns.⁴

In addition to describing airpower's ability to affect all levels of warfare, more or less simultaneously and independently, the passage above also points out that the unifying linkage between decisions made at each level of war is the principle of the objective. This idea is explained more fully in Air Force Manual 1-1, Volume II, Essay F, "Three Levels of War." In this explanatory essay, the author states that "[t]he operational level bridges the gap between the tactical and strategic levels."⁵ It bridges the gap through the design and conduct of campaigns and major operations, which involve "the employment of military forces in a series of military operations to accomplish a common objective in a given time and space."⁶ The principal task of operational planners is "to identify and concentrate operations against the enemy's most susceptible centers of gravity."⁷

In summary then, a working understanding of the operational level of warfare contains the following:

- it bridges the gap between the tactical and the strategic levels of war;
- it performs this linkage through the design and execution of a campaign;
- a campaign consists of a major operation , or a series of major operations, conducted by military forces to achieve a common objective in a given space and time;
- airpower may be employed in conjunction with, or independently of, other military forces, to accomplish objectives at any level of war;
- the principle of the objective serves to unify actions at each level of war.

In order to expand on this basic definition of the operational level of warfare, it is necessary to examine the concepts of synergy and cumulative effect, as they relate to campaigns, major operations, and the unifying principle of the objective. The concept of synergy is often conflated with the concept of synchronization. Synchronization is the ability to bring all available combat power to bear at a critical point in space and time. In this way, the full effect of all available combat power is felt by the enemy as the sum of

all the various parts: air, artillery, direct fire, electronic and psychological warfare, for example. There is a scientific, calculated aspect to synchronization, even though, like all military activities, its successful accomplishment remains subject to the inevitable fog and friction of war. Synergy, on the other hand, is the bringing to bear of available combat power in such a way that the ultimate effect on the enemy is greater than the sum of the constituent parts. At the tactical level, the difference between synchronization and synergy can be hard to produce and harder still to distinguish. As one approaches the operational level of warfare, with its emphasis on campaigns and combinations of operations, the generation of synergy is a mark of the operational art. To make a series of engagements or operations produce an effect on the enemy beyond their mere physical results is the essence of operational warfare. To focus the power of synergy accurately on the attainment of operational objectives, which, if chosen properly, lead to the accomplishment of strategic and political goals, is to achieve success at minimal cost. The concept of cumulative effect may be understood as the consistent generation of synergy over time. A key aspect of operational level warfare is that the cumulative effects of synergy over time generate a second order synergy all their own. The bottom line is that the linkage between the tactical events executed (or endured) by military forces and the strategic and political objectives of a conflict is not simply a series of addition and subtraction problems. The operational level of warfare, specifically the concepts of synergy and cumulative effect, provides the intellectual framework for planning and conducting operations with the conscious aim of generating more than the mere sum of the physical effects of battles and engagements.

Before concluding this preliminary discussion of the levels of war, an important potential objection must be addressed. It might be perceived as unfair to apply current doctrinal concepts, such as the criticality of the operational level of war, to military planners and planning which took place prior to the “discovery” of those concepts. In short, how can we hold airpower planners and theorists of World War II, Vietnam, and even the Gulf War accountable for appropriately considering doctrinal principles which have only recently entered the military “lexicon?” First of all, it is not the intent of this paper to be personally critical of any individual or group of individuals. The purpose of this paper is to examine historical evidence of an inability to consistently link tactical actions to strategic objectives in order to draw lessons of value for operational planning today. Secondly, the task of linking tactical actions to strategic objectives was just as critical during previous conflicts as it is today, regardless of doctrinal terminology. One of the benefits of thinking about the operational level of warfare is to make clear the assumptions made, consciously or unconsciously, by air planners in linking the tactical events they directed with the strategic results they expected to attain.

A Methodology—The Faber Model

In a monograph entitled, “Competing Theories of Modern Air Power: A Basic Introduction,” Lieutenant Colonel Pete Faber, USAF, argues a dual thesis:

1. There is a body of thought which constitutes airpower theory that is recognizable, coherent, and subject to systematic rational analysis; and,
2. There is much to be gained professionally by explicating and comparing competing theories of airpower.

In order to discuss airpower theories in a useful manner, it is important to avoid the pitfalls of earlier airpower theorists, which Faber calls “pathologies.” These include: the

attempt to divine universal principles of airpower employment which would be equally applicable to all wars; the fetish of predicting, in time and resources, exactly what would be required for airpower to deliver victory; and the reliance on metaphors in lieu of analysis to buttress arguments about the enemy's vulnerability to airpower. Faber also scores early airpower theorists for their consistent overemphasis on targeting as the "be all and end all" of airpower theory.

Unfortunately, virtually every theorist or targeting group also confused combat effectiveness (means) with strategic effectiveness (ends). As a result, the "how," "what," and "where" of targetting received attention while the "why" did not. No theorist or group adequately explained how destroying a particular target set would trigger a specific reaction that yielded a desired political outcome.⁸

Faber recognizes that the key question to be addressed by any modern airpower theory is the question of the relationship between what airpower has the capability to do (means) and what airpower can be expected to accomplish (ends). He concludes his survey of early airpower theorists as follows:

Given the over concentration of early theorists on the mechanics of targetting, it should be no surprise that the causal relationship between aerial attacks and political outcomes remains murky. In fact, a clear exposition of this relationship remains the Holy Grail of airpower theory.⁹

A first step in the search for this Holy Grail, Faber argues, is the development of a common language for analysis.

Faber utilizes the work of Dr. Robert Pape and Colonel Pat A. Penland to form his analytical framework. Building upon the independent work of these two writers through a "five questions" approach, Faber constructs an effective model for comparing and contrasting airpower theories. Airpower theories can be analyzed based on timing, targeting, mechanisms, and political outcome. Timing is tied to the type of attack to be

employed: punitive, coercive, disruptive, and so on. Targeting is based on an assessment of the enemy's vulnerabilities and friendly capabilities. Mechanisms are the previously "missing link" in airpower theory: what specific effects do we expect an air attack or attacks to have on the enemy? Finally, the last question concerns what political outcome or outcomes do we expect to derive from successfully triggering the mechanism mentioned earlier. By utilizing this model, airpower theorists (and their critics) can "avoid a common mistake—fixating on the 'how' of air strategy rather than the 'why'."¹⁰

Clearly, Faber's approach clarifies the attempt to link tactical level considerations (targeting, timing) to strategic level concerns (political outcomes). Doctrinally, we now refer to this effort to link the tactical and strategic levels of warfare as the operational level of warfare. Thus Faber's category of "mechanism," which describes the means by which this linkage is accomplished, can be equated to the operational level of war. Successful triggering of Faber's "mechanisms" is the equivalent of attaining operational objectives, called campaign objectives in U.S. Air Force doctrine. If these operational or campaign objectives have been well chosen, their attainment, at least in theory, should lead to the attainment of the strategic and political objectives of the conflict.

In advocating the equivalence of Faber's categories to the tactical (timing and targeting), operational (mechanism), and strategic (political outcome) levels of war, a small but potentially important inconsistency is generated. Faber's model, as he developed it, starts with timing and targeting, then proceeds through mechanisms, finally culminating in political outcomes. In actual planning, if not analysis, common wisdom dictates starting with the desired political outcomes, the overarching ends, and then working down through subordinate ends to means. In other words, the logical flow of

thinking, although not necessarily that of practice, is from strategic level, through operational level, to tactical level of war. In practice, this process tends to be much more recursive, especially in the early stages of a conflict. Eventually, stories told as justifications or explanations align themselves with the theoretical sequence of consideration. Failing to recognize the logical dominance of this "one way" flow, from strategic through operational to tactical, can lead us into a recurring problem of airpower theory, that of the means available dictating the ends to be achieved. In applying Faber's model to specific airpower issues from World War II, the Vietnam Conflict, and the Gulf War, his original sequence of categories will be maintained.

Notes

¹ Lieutenant Colonel Pete Faber, "Competing Theories of Modern Air Power" (monograph, Air University, Maxwell AFB, AL, 1995), p. 12.

² *Basic Aerospace Doctrine of the United States Air Force*, Air Force Manual 1-1, Volume II, (Washington, D.C.: Department of the Air Force, 1992), p. 43.

³ *Basic Aerospace Doctrine of the United States Air Force*, Air Force Manual 1-1, Volume I, (Washington, D.C.: Department of the Air Force, 1992), pp.2-3.

⁴ *Ibid.*, p. 9.

⁵ Air Force Manual 1-1, Volume II, p. 47.

⁶ *Ibid.*, p. 46.

⁷ *Ibid.*, p. 46.

⁸ Faber, p. 11.

⁹ *Ibid.*, p. 12.

¹⁰ *Ibid.*, p. 11.

Chapter 2

Airpower and the Operational Level of War

World War II—The Transportation Plan vs. Strategic Bombing

The Problem

In January 1944, General Dwight D. Eisenhower, recently named to command Operation Overlord, arrived in London to organize his headquarters (SHAEF—Supreme Headquarters Allied Expeditionary Force) and staff. Eisenhower, due to his experience as Commander of Operation Torch in North Africa, had strong opinions about how he could best exercise command of the vast forces required to successfully invade the continent of Europe. He was especially concerned about the air forces dedicated to support the invasion and the subsequent campaign to defeat Nazi Germany. In his book, *Crusade in Europe*, Eisenhower wrote:

It was desirable for the preparatory stages of the assault and for proper support during the critical early stages of the land operation—until we had established ourselves so firmly that the danger of defeat was eliminated—that all air forces in Britain, excepting only the coastal command, should come under my control.¹

In one of the classic understatements of the war, Eisenhower goes on to say that “[s]ome opposition quickly developed.”² The basis for this opposition was a concern of the part of many senior airmen that the strategic assets of the U.S. Army Air Forces

would be diverted from their primary objective, strategic attack of the German industrial web, in order to provide support for land-based operations. As it turned out, strategic air assets were used extensively in support of both the Normandy invasion and the subsequent SHAEF campaign's ground operations to defeat Nazi Germany. In spite of the overall success of the Allied struggle against Germany, the debate still continues unabated about the wisdom of Eisenhower's decision to employ strategic bombing assets in support of land-based operations.

Given the strategic objectives of the Allied governments, the employment of strategic bombing assets in support of SHAEF ground operations was an appropriate use of airpower at the operational level of war. A discussion of Eisenhower's background, the arguments of both "camps" as they competed for Eisenhower's approval, and Eisenhower's own justification for employing strategic assets in support of ground operations will provide the basis for analysis of Eisenhower's decision in terms of Faber's model. When viewed within the context of Faber's model, specifically as it applies to the operational level of war, Eisenhower's employment of airpower is appropriate, if not optimal.

Eisenhower's Background

For Eisenhower, the question was one of command relationships. As Supreme Commander, Eisenhower expected, and even demanded, absolute control over all assets available to support his mission. In the Mediterranean Theater of Operations (MTO), Eisenhower had seen first hand the dangers of fighting a separate ground and air war. But North Africa had also shown that the "penny packeting" of aviation assets to ground formation commanders was not the answer. The solution was to employ concentrated

ground forces and concentrated air forces under a common commander focused on a common objective.

...unity, co-ordination, and co-operation are the keys to successful operations. War is waged in three elements but there is no separate land, air, or naval war. Unless all assets in all elements are efficiently combined and co-ordinated against a properly selected, common objective, their maximum power potential cannot be realized.³

Although Eisenhower's preference for command relationships quickly prevailed with the Combined Chiefs of Staff, his philosophy of command was in for an early test.

The "Camps"

Shortly after being named Supreme Commander, Eisenhower was called upon to make a major decision regarding the employment of airpower. Key members of Eisenhower's staff, focused on the upcoming invasion of France, advocated an extensive bombing campaign against the transportation network of northern France. Their goal was to isolate the areas around the invasion beachheads to prevent German reinforcements from counterattacking the Allies' fragile foothold on *Festung Europa*. This Transportation Plan was opposed by advocates dedicated to continuing the Combined Bomber Offensive as outlined at the 1942 Casablanca Conference. The Combined Bomber Offensive (CBO) called for the unremitting aerial attack of strategic targets within the heartland of Germany. Their goal was the destruction of Germany's war-making capability.

Advocates of the Transportation Plan included Air Chief Marshal Tedder and Air Marshal Leigh-Mallory of Great Britain. Tedder had served as Eisenhower's deputy in North Africa and continued in that role at SHAEF. Leigh-Mallory had been designated Commander, Allied Expeditionary Air Force (AEAF). The Commander, 9th U.S. Air

Force, Lieutenant General Lewis Brereton, also supported the Transportation Plan over the CBO. Their key arguments for Transportation over CBO included: the "build up" problem, concern over the German Air Force in France, and the insistence that the invasion constituted the Allied "major effort."

The "build up" problem was a problem of military physics. Assuming that the initial invasion at Normandy was not immediately repulsed, the Allies would then be able to land additional forces at a specific rate restricted by the number of landing craft or port facilities available. The German defenders, on the other hand, would be striving concurrently to bolster their defenses against the beachheads and mustering forces for a counterattack. Whichever side won the race to put reinforcements into the critical battle area could seize the initiative through offensive (or counteroffensive) action. Haunted by the twin specters of Dunkirk and Dieppe, the Transportation Plan adherents insisted that all available assets, including the strategic bomber force, be utilized to turn northern France into a "transportation desert" to preclude the Germans from repositioning forces to meet and defeat the invasion before the Allies could complete the required build up.

The Transportation Plan team also argued that concentrated air attacks on the transportation system of northern France would force those elements of the German Air Force stationed in France to defend key targets. In this way, German Air Force assets in France could be systematically destroyed to prevent their employment against the invasion forces. The attrition of the German Air Force in France would take time and must be completed prior to the invasion itself.

Finally, the Transportation Plan advocates maintained that the invasion was clearly the Allied main effort. Its success was crucial to winning the war. Failing to dedicate all available assets to insuring its success was the tacit acceptance of unjustifiable risk.

Opponents of the Transportation Plan were the primary advocates of strategic bombing. They included General Spaatz, Commander, U.S. Strategic Air Forces, Europe; Lieutenant General Ira Eaker, Commander, 15th Air Force; and Air Chief Marshal "Bomber" Harris, Commander, British Bomber Command. The strategic bombing team agreed that a bombing campaign in preparation for the Normandy invasion was needed, but that it should be much smaller in scope and duration and that it should not be carried out at the expense of the ongoing strategic bombing campaign. They also held that the quickest way to defeat the German Air Force, as well as Germany itself, was through the unimpeded prosecution of the Combined Bomber Offensive.

General Spaatz argued that three weeks of preparatory bombing prior to the Normandy invasion would be adequate to carry out Eisenhower's intent to destroy the transportation system of Northern France. He felt confident this could be done, given the capabilities of the tactical air forces assigned to the AEAFF, the improved accuracy of American bombing, and the steadily increasing number of heavy bombers available. This shorter, concentrated effort would allow the strategic bomber force to remain committed to the intensive bombing of strategic targets in Germany.

This strategic bombing effort, then aimed with full force at the German petroleum industry, would pay great benefits in the upcoming land operations, since it would deny the Germans the fuel they needed for vehicles, aircraft, and industrial production. To the

advocates of strategic bombing, the fastest way to defeat Germany remained through the air by attacking German war-making capacity.

Spaatz, as well as other members of the strategic bombing team, doubted that the German Air Force in France would “take the bait” and rise up in great numbers to defend against Allied attacks against the French transportation system. They maintained that the place to destroy the German Air Force was over Germany, not France. Continuing the relentless attack on the German heartland would fix German air assets in place and prevent their redeployment to France against the invasion force. German Air Force assets in France had already been drawn down to bolster German air defense capabilities at home and did not pose a significant threat to the invasion. Those German Air Force elements still operating on D-Day could be easily handled by the tactical air assets under Eisenhower’s control.

Eisenhower’s Decision and Justification

Not surprisingly, Eisenhower decided the issue in favor of the members of his own air staff. The Transportation Plan was adopted, although a concession to the strategic bombing camp regarding command relationships was made. Instead of reporting to Leigh-Mallory, the Commander, AEAFF, the strategic bomber commanders would report directly to Air Chief Marshal Tedder, Eisenhower’s deputy commander. Eisenhower stated publicly that this was done in order to allow Leigh-Mallory to concentrate on the demanding task of air-ground co-operation of the tactical air forces, but it was also due to the strategic bombing advocates concern over Leigh-Mallory’s grasp of strategic bombing concepts.⁴

Eisenhower justified his decision primarily based on the "main effort" argument. The Normandy invasion, he pointed out, "was not an ordinary tactical movement." It was, in fact, the main effort of the war. Success was important, but more importantly, "failure would be catastrophic." Failure of the invasion would require the redeployment to other theaters of the huge follow on forces waiting in the United Kingdom, it would have an inestimable effect on the morale and determination of the Allies, and it could possibly drive the Russians into making a separate peace with Hitler.⁵ Failure of the invasion was simply unthinkable. Given this, Eisenhower invoked memories of Salerno, stating that:

... when a battle needs the last ounce of available force, the commander must not be in the position of depending upon request and negotiation to get it. It was vital that the entire sum of our assault power, including the two Strategic Air Forces, be available for use during the critical stages of the attack.⁶

Eisenhower concluded his reasoning with the observation that, in spite of the requirements imposed on the strategic bombing forces by the Normandy invasion, that "we were most anxious to continue the destruction of German industry with emphasis on oil."⁷ Throughout Eisenhower's memoirs, the belief that the strategic bombing operations could and would continue is a consistent theme.

The results of Eisenhower's decision are now relatively well known. German forces, already drawn away from the Normandy beaches by the Allied deception plan pointing toward the Pas de Calais, were prevented from repositioning to meet the Allied thrust by the havoc wreaked upon the transportation system.⁸ All German movement was driven to the roads by the lack of rail transport, where, especially during daylight hours, it was vulnerable to unremitting air attack. The Allies won the "build up" race and broke out,

eventually, at St. Lo. In spite of this success, Eisenhower's decision is still subject to criticism, especially by advocates of strategic airpower.

One such advocate, Major General Haywood S. Hansell, eloquently states the strategic airpower position in his book, *The Air Plan That Defeated Hitler*.

It was the supreme irony that those Strategic Air Forces, having won their crucial battle at such cost in blood and guts . . . then faced an even more formidable obstacle to the prosecution of the strategic air war: the determination of high authorities and commanders to divert the power of those strategic air forces away from those Primary Objectives and apply it in a support role for the furtherance of the ground force objective.⁹

Hansell's criticism of Eisenhower's decision takes three forms. First, Eisenhower, as well as members of his air staff, failed to appreciate the concept of strategic air warfare and were tied to outdated concepts of employing bombers in support of ground operations. Secondly, as an Army ground officer, Eisenhower was prone to parochialism, which lead him to focus to an inordinate degree on ground operations, thus blinding himself to the possibilities of strategic air warfare. Finally, after the success of the Normandy invasion was assured, Eisenhower continued to divert strategic bombing assets away from their primary objectives, strategic targets within Germany, in order to support ground operations, thus prolonging the war.

Of Hansell's criticisms, the first two are, at best, unhelpful, and at worst, uninteresting. Charges of parochialism or a lack of understanding are simply *ad hominem* attacks, aimed at a person or persons, and not at their position on an issue. These charges can usually be stood on their head with equal effect and weight. In fact, Eisenhower often wrote that the techniques of air-ground co-operation were not widely understood and that most air officers, if not prevented, inevitably sought to bomb strategic targets, regardless

of the location of the critical effort.¹⁰ Likewise, charges of service parochialism also tend to flow both ways. Certainly advocates of strategic airpower, who had worked so hard to build, train, and employ the massive air forces now at their disposal, were more than moderately wedded to the strategic warfare concept to the potential detriment of other modes of warfare. Hansell's third criticism, however, that Eisenhower's diversion of the strategic bombing assets was unnecessary and resulted in prolonged conflict, is worthy of closer examination.

Hansell argues that the use of strategic bombing assets to support SHAEF ground operations diverted them from their primary targets to the detriment of the overall war effort. The question of primary and secondary targets only makes sense in the context of strategic objectives. When Hansell speaks of primary targets he is speaking from within his theory of strategic air warfare, a theory which necessarily presupposes a specific linkage between tactical events and strategic objectives. In order to evaluate claims regarding the primacy of one set of targets over another, a more neutral model is required.

Application of the Faber Model

As discussed earlier, Faber's model helps us to analyze competing theories of airpower by examining them in terms of four categories: timing, targets, mechanism, and desired political outcome. If we apply this model to the issue at hand, some interesting results occur. At the onset of American participation in the European Theater of Operations (ETO), the model reflects the following:

Table 1. Initial Application of the Faber Model

Timing	Target(s)	Mechanism	Political Outcome
Recurring	Industrial Web	Destroy Warmaking Capability	Surrender

This model accurately reflects the concepts behind Air War Planning Document 1 (AWPD-1), the key initial air planning document of World War II. AWPD-1 contained, as its "First Air Task,"

To conduct a sustained and unremitting Air Offensive against Germany and Italy to destroy their will and capability to continue the war and to make an invasion either unnecessary or feasible without excessive cost; . . .¹¹

One of the deepest hopes of the strategic airpower advocates was that airpower alone would prove decisive, rendering an invasion of the Continent, with the attendant destruction and death such an operation would entail, unnecessary. And so long as the Allies' strategic objective remained the surrender of Germany, the selection of the mechanism of destroying Germany's war-making capacity (including the murky aspect of the will of the people) in order to achieve that strategic objective was appropriate. However, in the course of the war, as so often happens in history, the strategic objective of the Allies changed. Once the tide of early Axis victories had been reversed, the Allies shifted their strategic objective in the war from the surrender of Germany to the *unconditional* surrender of Germany. Once this change has been incorporated into the Faber model, we get:

Table 2. Subsequent Application of the Faber Model

Timing	Target(s)	Target(s)	Political Outcome
Recurring	??????????	Occupation	Unconditional Surrender

When we work backwards through Faber's model, we see that the list of targets selected must support the mechanism of "occupation." Based on the hard lessons learned from the First World War, when Germany was allowed to surrender and subjected to only a partial occupation, the Allies intended to fully crush the Nazi state. A consequence of this intention was the requirement to occupy Germany in total. In Eisenhower's mind this target list consisted of both strategic targets and those non-strategic targets which would further his operational goal of occupying Germany. The use of strategic airpower assets to attack these targets is justifiable when viewed in the light of the strategic goal of unconditional surrender.

Two possible objections can be raised to this conclusion. First, that the strategic air campaign, if it had been allowed to proceed as originally conceived, would, in and of itself, have forced Germany's unconditional surrender. This argument appears, at face value, to be very powerful, especially given the example of the surrender of Imperial Japan and the dramatic results of bombing Germany presented by the post-war *U.S. Strategic Bombing Survey*. Although powerful in appearance, the argument is not compelling. In spite of severe setbacks, Hitler and the Nazis remained in control of Germany until virtually overrun. In the absence of nuclear weapons, the German will to fight was not eradicated even by the terrible destruction rained upon Hamburg, Dresden, or Berlin. The time required to allow the strategic air campaign to "finish the job it

started” would have provided more opportunity for the Germans to field additional V-weapons and jet aircraft, as well as possibly turning the National Redoubt from Nazi myth to reality. In short, Germany gave every indication that it would surrender nothing that was not taken from it by force.

A second potential objection is that Eisenhower had sufficient tactical air forces to “do the job.” In fact, Eisenhower’s tactical air forces after Normandy were larger than the entire *Luftwaffe*.¹² Consequently, any diversion of strategic air assets was unnecessary. In response, it should be noted that Eisenhower’s tactical air forces, however numerous, were employed in support of ground operations across a front which stretched from Switzerland to the English Channel. Additionally, the tactical air forces were also frequently diverted from ground support missions and used against the “hot targets” of the day, such as the German V-weapon sites (Operation Crossbow). But the most telling response to this objection is that the impact of the diversion of strategic air assets in support of ground operations was relatively insignificant. In spite of the diversions to support ground operations, the strategic air campaign produced outstanding results. As Hansell himself points out:

The bombs allotted to oil amounted to only one-seventh of the total amount dropped by bombers during those critical months. Nevertheless, it is true that these modest attacks on oil targets, . . . produced astonishing results. As reported earlier, aviation gasoline production dropped from a 180,000 metric tons per month rate in April to about 160,000 tons in May. It was down to some 50,000 tons in June, 30,000 tons in July, and to about 10,000 tons in August.¹³

These amazing results were achieved during the heaviest period of strategic bomber diversion to support ground operations, the pre-invasion preparation and the operations prior to the breakout. It is difficult to see how the diversion of strategic air assets to

support ground operations materially affected the strategic air campaign much beyond inconvenience.

In conclusion, Eisenhower's decision to utilize strategic air assets in support of the Normandy invasion and subsequent SHAEF campaign to defeat and occupy Germany was an appropriate use of airpower, given the shift in the strategic objective of the Allies from surrender to unconditional surrender. Eisenhower's recognition of the need to change the mechanism of victory in order to achieve the revised political goal of the Allies enabled him to fully utilize airpower as an integrated means, along with ground operations, to bring about that end. Field Marshal von Rundstedt, German Commander in the West, was quoted after capture:

Three factors defeated us in the West where I was in command. First, the unheard of superiority of your air force, which made all movement in daytime impossible. Second, the lack of motor fuel—oil and gas—so that the Panzers and even the remaining Luftwaffe were unable to move. Third, the systematic destruction of all railway communications so that it was impossible to bring one single railroad train across the Rhine. This made impossible the reshuffling of troops and robbed us of all our mobility.¹⁴

Von Rundstedt's statement validates Eisenhower's decision to change the mechanism of victory, the operational objective, in light of the revised strategic objective. In von Rundstedt's assessment of his defeat, we can see the key elements of operational level warfare, synergy and cumulative effect, at work. The synergistic effect of air operations against targets in the industrial base, against targets in the transportation network, and against targets in and around the battlefield resulted in a military paralysis that was both physical and psychological and out of proportion to the actual damage caused. The cumulative effect of this air effort, combined with the synergistic effect of

unrelenting ground operations conducted on a broad front against the Germans, made their defeat inevitable, regardless of the personal heroism and extraordinary efforts of the *Wehrmacht*.

Examination of the controversy which arose over the decision to employ strategic bombing assets in support of a ground campaign can be very instructive for modern air operations and campaign planners. First of all, it is a mistake to call Eisenhower's campaign a "ground" campaign. Certainly, it contained extensive ground operations. As we have seen, the strategic objective demanded this. It was, in fact, a joint campaign, integrating sea, air and ground assets to achieve operational objectives which supported the achievement of an overall strategic goal. In this way, it reflected current airpower thinking, as this quotation from John Warden shows:

The political objective of a war can range from demanding unconditional surrender to asking an opponent to grant favorable terms for an armistice. The military objective that will produce the desired behavior on the part of the enemy will be related to the political objective and will in turn heavily influence the campaign plan designed to attain it.¹⁵

The lessons learned from this particular historical example may be summarized as follows. The military (operational) objectives of a campaign must be the best mechanism through which the political (strategic) objectives of the war can be attained. A measure of the appropriateness of a mechanism is its adequate consideration of the concepts of synergy and cumulative effect. Additionally, as military planners, we must be alert to changes, however subtle, in the political and strategic objectives of a war, and be prepared to reevaluate our military (operational) objectives in terms of those changes. Finally, we must not become slaves to our previously determined plans and objectives, especially when we are nearest to implementing them. One of the great tragedies of war

would be to achieve the military objectives at a terrible cost in blood and treasure, only to discover that those military achievements have failed to bring about the true political goal of our nation.

Notes

¹ General Dwight D. Eisenhower, *Crusade in Europe*, (Garden City, NJ: Doubleday & Company, Inc., 1948), p. 221.

² Ibid., p. 221.

³ Ibid., p. 210.

⁴ Wesley F. Craven and James L. Cates, *The Army Air Forces in World War II*, Volume III, (Chicago, IL: University of Chicago Press, 1951), p. 80.

⁵ Eisenhower, p. 222.

⁶ Ibid., p. 222.

⁷ Ibid., p. 222.

⁸ Craven and Cates, p. 181.

⁹ Haywood S. Hansell, *The Air Plan That Defeated Hitler*, (Atlanta, GA: Higgins-McArthur/Longino & Porter, Inc., 1972), p. 184.

¹⁰ Hansell, p. 239.

¹¹ Hansell, p. 76.

¹² Hansell, pp. 240-241.

¹³ Hansell, p. 237.

¹⁴ "Allied Air Power: Interviews with Captured POWs," (Washington, D.C.: ACSI, AAF, 23 Jun 45), on file at the Air Force Historical Research Agency, Maxwell AFB, AL, p.1.

¹⁵ John A. Warden, III, *The Air Campaign*, (Washington, D.C.: National Defense University Press, 1988), p. 129.

Chapter 3

Conclusions

Direction of Further Research

This paper remains a work in progress. The sections designated to apply my thesis to historical examples from the Vietnam Conflict and the Gulf War are still waiting to be written. I suspect, from my initial study and readings on the subject, that many of the debates regarding the use or misuse of airpower in those conflicts can be traced to an inadequate appreciation of the operational level of war, specifically, a blurred conception of those assumptions regarding the linkage of tactical events and the strategic outcomes desired and expected. Unfortunately, the explication of those assumptions and arguments for or against their accuracy lie beyond the scope of the current project. Nevertheless, I feel some conclusions can be drawn from the work, as it stands.

The Power of Presuppositions¹

To paraphrase Trotsky, “you may not be interested in the operational level of war, but it is certainly interested in you!” Whether conscious of them or not, we as military planners make assumptions about the linkage between the tactical events we direct and the strategic outcomes we expect. Between tactical success and strategic victory lie a host of variables regarding the enemy’s knowledge of events, his perceptions based on

that knowledge, the options he perceives as available and appropriate, and his ultimate decision on what to do, sometimes regardless of our actions to that point. Nevertheless, it is impossible for us to formulate a plan without some conception of a logical, cause and effect relationship between our contemplated actions and the enemy's anticipated response. I call these conceptions presuppositions because, in a very human way, we bring these conceptions, unexamined, to the particular circumstances we face when we do military planning. These presuppositions may be based on experience in another theater of operations, on the training and education we have received in military schools, on discussions we have had with others, on a combination of the above, or on something completely different. The insidious thing about these presuppositions is that they can become transparent lenses through which we view events and make judgments. One common example of this problem is committing the error of "mirror warfare." In "mirror warfare," we mistakenly, and usually unwittingly, base our judgements on how the enemy will react to a specific situation on how we would react in similar circumstances. Unconsciously, we have adopted a conception of the linkage between tactical events and anticipated strategic outcomes. The more we are able to make our presuppositions about this linkage clear, the more we can subject them to rational analysis, and the greater our chance of avoiding error.

Uncovering Presuppositions

One of the reasons for the persistence of the idea of the operational level of warfare is the realization of the need to make our presuppositions about the linkage between the tactical and strategic levels of warfare clear. Discussing the operational level of warfare,

as it pertains to a particular conflict or theater of operations, forces one to examine the mechanics of the logical connection between tactical success and desired outcomes. A good tool for this examination, especially when under the time constraints of crisis action planning, is a content-free model, such as the one developed by Faber. The purpose of any model used should be to make clear the answer to the question: "And by doing this successfully, we expect to accomplish? . . . In this way, tactical events may be clearly linked to operational objectives and the achievement of operational objectives may be deliberately linked to strategic goals. Once the anticipated linkages are made clear, the bases for believing these linkages to be accurate and likely can also be exposed to systematic, rational analysis.

Logical Connections

The enemy always seems to exercise an option that we did not think he had. The Germans in World War II, for instance, continued to build aircraft in large numbers even though we had successfully bombed their industrial plants. This is due to the fact that the logical connection between cause and effect, between tactical success and strategic outcome, is rarely, if ever, a necessary one. A necessary connection would mean that the enemy had one and only one possible response to our action. No other option exists. In theory, if we could determine the necessary linkage between tactical success and our desired strategic outcome, our only problems would be to ensure tactical success. For better or for worse, the world consists largely of contingent linkages between our actions and the responses of others, enemies included.

Consequently, the search for the appropriate linkages between tactical success and strategic victory, the search for an accurate understanding of the operational level of warfare, is the search for a combination of sufficient causes to compel the enemy, with reasonable certainty, to acquiesce to our strategic desires. It is a quest to deny the enemy options that do not coincide with our desires. In this quest, the concepts of synergy and cumulative effect are designed to deny the enemy options. Synergy, as described earlier, results when we focus our combat power in such a way as to present the enemy with effects that exceed the sum of our efforts. Regardless of how much energy the enemy expends in his defense, he will always be presented with an undefended vulnerability. When this synergistic effect is applied over time, the enemy gradually loses options to respond, exposing even more vulnerabilities. The idea of increasingly denying an opponent options, based on the persistent application of as many means of combat power as possible, seems to render the concept of a strategic knockout punch somewhat difficult to imagine, except for some narrowly defined scenarios. In order for a strategic knockout punch to be successful, its accomplishment would have to single handedly deny the enemy all non-desired options, theoretically possible, but difficult to describe in concrete terms. It is far more likely that, by exposing an enemy to the full gamut of combat power: air, sea, land, and space, focused through an accurate understanding of the operational level of warfare, we can reduce the enemy's options to a manageable and predictable few. To do less when we are capable of more seems an unwarranted acceptance of risk. Without a doubt, the last thing we want to do is to lead soldiers, sailors, airmen, and Marines into a fair fight.

Notes

¹ I owe this idea to Lt Col Pete Faber. The idea is mentioned in the following passage from the monograph cited earlier, page 18: Woven into each theory of airpower are *a priori* assumptions about mechanisms that are not always obvious or necessarily wrong. They are nevertheless, a collection of biases and belief systems more than they are empirical rules.

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